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Transite Pipe Characterization  
Pipe Survey  
5-14-09



"Rite in the Rain"®

ALL-WEATHER  
JOURNAL

No. 391

Book 1

B. Wright

5-14-09

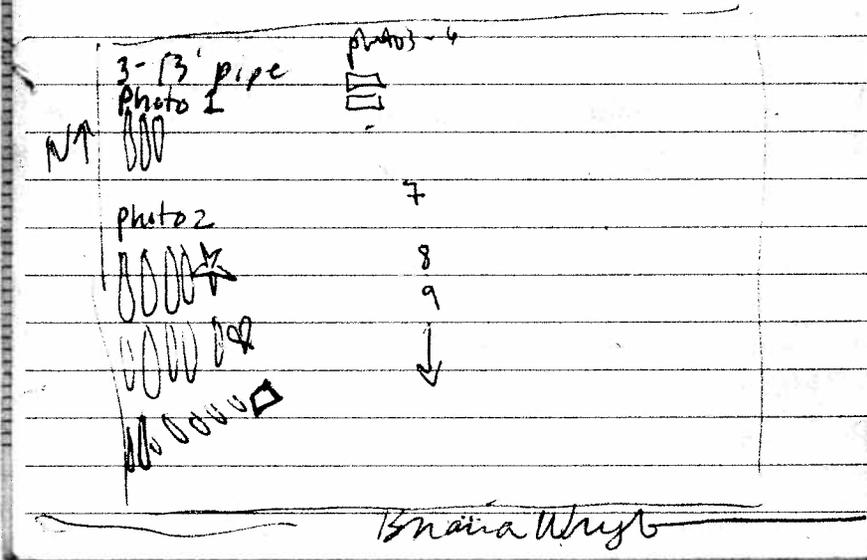
0700 Arrive @ Weed Hts office  
 Weather: 70's, warm, clear, sunny.  
 Team: Briana Wright  
 Roe Southern,

Samples are determined by ft<sup>2</sup> or  
 linear feet. South side of bench  
 similar type of pipe <sup>(per Roe)</sup> 7 samples  
 per HA.

If less than 260' of linear pipe, don't  
 need 7. 3 is minimum.

0750 Mob to HA-1

Points on map  $\otimes$  in HA-1 are  
 four corners of pipe areas  
 HA-1



5-14-09

Looking East  
 Photo 1 = 6 pipe in bundle. 3 on top of 3  
 Each is 6.5' I.D.  
 O.D. =

Photo 2 = 3 rows of pipe. Looking South  
 5 on Bottom Length =  
 2 on top 1 on bottom has inner pipe (lined)  
 w/collar  
 2 on top lined w/collars

8 across

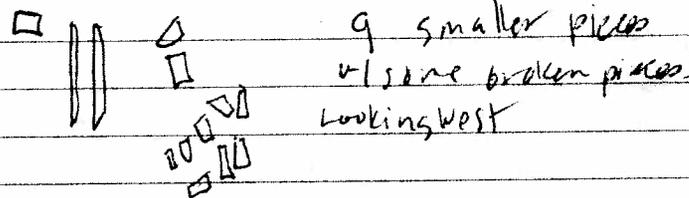
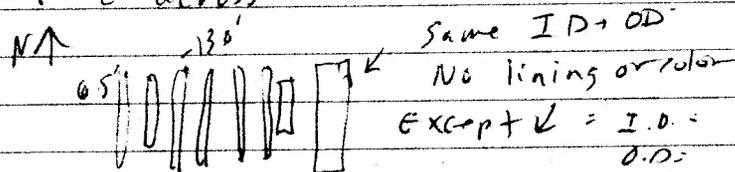


Photo 3, 4, 5, 6

4 13' pipe Row

Photo 7 Looking East

Photo 8 "

Photo 9 "

Briana Wright

5-14-09

In general, in HA-1 it looks like the same stuff, some lined & some is unlined.

some collars

lots of broken collars

lots of broken collars

~ 8 piles in this area.

HA-1 is area on triangle, not line feature.

084D Mob to HA-2. Point HA-2 A begins.

HA-1 =

8" pipe = ~ 1950' linear feet

16" pipe = 728 linear feet

12" metal = 40' linear feet

14" pipe = 377' linear feet

22" = 313' linear feet

~ 2 yd<sup>3</sup> of broken pipes & collars scattered throughout the area. Some embedded in the soil

→ metal asphaltic coating

Suspect asbestos containing material

General condition is good. No pipe appears to be unused (most of it)

Metal ~ 40' hard to tell, looks like its bent like a "pretzel".

~~Broken ways~~

5-14-09

Some pipe partially obscured by pipe brush or weeds.

HA-2 point & another point, then connect

Point HA-2 slot pond

Begins a linear feature, it will connect to next point. (Photo 59)

Point HA-2 fence. Is a point that connects to HA-2 slot pond.

at this point, the pipe turns into 2 pipelines. In this area, the beginning of 2nd pipeline is hard to find as it is partially buried.

Residual material in the pipe.

Like a precipitate of white material. Point HA-2 slot pipe - Pipe is partially covered by dirt. Broken collars.

It is unknown if more pipe is buried. This point is not connected to linear feature. It is a distinct pile separate from pipeline to the West.

HA-2 fence A - a midpoint of line feature, connects to HA-2 fence

~~Broken ways~~

5/14/09

HA-2 pile is a point. A separate pt not connected to fence line pipe. Small ~~pile~~ <sup>pile</sup> of 13' pipe - broken in two w/ collar. (Photo 64.)

HA-2 to slot waste linear feature (photo 69)  
 toe of slot waste rock  
 a new pipeline west of fence line. at the end of this linear feature (south) end. It appears to be buried + continues on to south due to disturbed piles of dirt in area. Its end point not visible.

- Suspect unknown quantity of pipe Buried.

HA-2 Fence B - Point of connection to our fence line pipe linear feature. At this point the pipe is disconnected + HA-2 fence C - Point of connection of linear fence line feature. At this point the pipeline becomes connected again. Broken pieces of collar + pipe in this area. (photo 72)

Bruana Wright

Diameter of fence line pipe = 12 inch.  
 HA-2 fence D - Point that connects our linear feature of fence line pipe. In this area it the pipe is broken. (photo 75)

HA-2 pile 2 - Pile of broken pipe. this point is not connected to pipe fence linear feature. It is a pile east of pipeline fence. (photo 76)

HA-2 Fence E - mid point of connection of fence pipeline linear feature

HA-2 fence F - point of connection of fence pipeline linear feature.

HA-2 fence G - same as above point. (photo 78) some broken pieces of collar in this area

HA-2 fence H - same as above this is a jog in our linear feature

HA-2 fence I - same as above @ this point the pipeline (dual pipeline) is disconnected. (photo 79)

HA-2 pile 3 - This point is not connected to our linear fence line feature. it is a pile of pipe (photo 80)

5/14/09

HA-2 Fence J - point of connection of linear feature. This is where pipeline is connected again. Distance from J to I is not connected.

HA-2 fence K - point of connection of linear fence line feature. At this point, the pipeline is disconnected.

HA-2 fence L - point of connection of our linear feature. At this point the pipeline is connected again & ends at the road (Birch Drive.) also at this point is lots of broken pieces. It is a pile & the pipe is buried.

HA-2 upper - this is a new point for a new linear feature of pipeline that is connected & is West of pipeline fence.

HA-2 upper 1 - point of connection from HA-2 upper. This is a bend. (photo 88)

HA-2 fence M - Point of connection of our linear feature. connects to "L"

Brown line

HA 2 upper 2 - Point of connection to HA 2 upper 1 - at this point it is buried & then is exposed when it wraps around & in between the valley of 2 tailings piles. We will drive around.

HA-2 upper line - line feature connecting from pt # HA-2 upper 2. (photo 95 shows end of connection.)

HA-2 upper line solo 1 - 1 pipeline  
HA-2 upper line solo 2 - 2 pipelines  
 Both terminate at cliff edge.

(See photo 99)

HA-2 upper pipe - 1 piece by itself (see photo 100)

HA-2 upper line solo 3 - see (photo 104) terminates off of cliff.

HA-2 upper pipe 2 - 2 pieces. see (photo 102)

HA-2 upper pipe 3 - 150' of 12" pipe on the edge of a highwall (photo 103+104)

HA-2 upper pipe 4 - 1 long piece

HA-2 fence N - connects to "M" fence line feature. At this point, it goes under the road (Birch).

5/14/09

HA-2 fence O - connects to "N".

pick up survey another side of Birch Rd. It then

goes under fence property line.

HA-2 fence P - connects to "O".

It then (pipeline) runs next to paved road. (photo 108)

HA-2 fence Q - connection of

jobs in pipeline

HA-2 fence R - same as above.

HA-2 fence S - same as above

HA-2 fence T - at this point.

The pipeline ends & turns into broken collars.

HA-2 fence U - Broken collar line.  
it connects to "T"

HA-2 fence V - End of linear feature ends.

Estimate  $\approx 5 \text{ yd}^3$  of broken collars.

HA-2 pile 4 - Scattered broken collars between this point and next point.

Observed broken collars partially covered w/ dirt & scattered

*Rhiana Wright*

HA-2 pile 5 - is a connection point to HA-2 pile 4 & has scattered broken collars. End of HA-2.

1235 Mob to HA-7.

HA-7 pile 1 -  $\approx 60'$  of metal pipe

End of 1 stick of transite pipe is visible possibly was used as outlet. 1 pipe is visible - more is most likely under soil/buried.

HA-7 pile 2 - Buried pipe is in the ~~SW~~ area of this point. This point connects to HA-7 pile 3.

HA-7 pile 3 - connects a line from pile 2 - to pile 3

between pile 3 + 2. Suspected pipe buried. plus  $\approx 350'$  of lateral partially exposed & not exposed (photo 115)  
- North of pile 2 is 1 visible pipe, appears to be all by itself.

Pile 3 dimensions  $\approx$  8 sticks of 20" diameter + remainder was suspected to be 8"

5/14/09

HA-7 pipe 4 - Visible 20"  
outlet pipe w/in wooden structure  
see (photo 116). This pipe is  
buried under soil & under road  
& appears to N-S trending at  
this location.

HA-7 pipe 5 - We assume the  
pipe connects to this point from  
HA-7 pipe 4 point.

HA-7 pipe 6 -  $\approx 120'$  & 8"  
diameter cement pipe encased  
in  $\approx 100'$  of metal pipe wrapped  
pipe. This pipe runs along  
road, then drops down slope  
& disappears. Disappears into  
the near a drainage ditch  
adjacent to Perry's property (photo 120)

End of HA-7

HA-6 pipe solo - 80' of wrapped  
metal pipe. (photo 121)

HA-6 pipe solo 2 - 40' of wrapped  
metal pipe.

HA-6 pipe 3 - 2 metal wrap pipes  
& partially buried.

Branches

5/14/09

HA-6 pipe 4 - this point is the  
other end of HA-6 pipe 3.  
It is buried except for both  
ends which are exposed. (photo 122)

HA-6 pipe 5 - Point is (photo 123)  
2 metal wrapped pipes partially  
buried.

HA-6 pipe 6 - This point connects  
to HA-6 pipe 5. It is the other  
end of pipe 5 above. (photo 124)

HA-6 pipe 7 - Broken piece

HA-6 pipe 8 - 1 pipe 30' metal-wrapped.

HA-6 pipe 9 (photo 128). 3 pipes  
8" diameter under trash.

HA-6 pipe 10 - (photo 129) 16-12" diameter  
& loose pipes. 1 1/2 sticks  $\approx 20'$

HA-6 pipe 11 - 2 sticks same diameter  
as above. Some partially buried  
pipes in berm nearby. (Estimated  
 $\approx 60'$ ) photo 130 of buried pipe

- Scattered broken pipe  
& collars at this point as well  
as in the general area.

HA-6 pipe 12 - This point is in the  
middle of 2 sticks

Branches

5/14/09

HA-6 pipe 13 - (photo 131)

scattered sticks, at least 4.

HA-6 pipe 14 - sticks (5)

HA-6 pipe 15 - 3 sticks +

some broken up pipe.

End of HA-6.

HA-5 pipe run - Long pipe that

ends at the edge of HA-5 +

picks up again in a different HA

~~HA-5~~ HA-6 pipe 16 is actually

in HA-5. (Make note on

GPS, this is 1 lone 10' stick

HA-5 pipe 2 photo 136

Unknown quantity buried.

pipe outlets + appears to be

a N-S trend.

HA-5 pipe 3 - 16" di  $\approx$  40' of pipe.

Both ends are exposed. Center is

covered in berm.

HA-5 pipe 4 =  $\approx$  40'. It is

positioned like above. Center

is buried in berm (photo 138)

HA-5 pipe 5 -  $\approx$  40' Same as above

pipe outlet is visible. Is buried in

Rock (crushed Rock) berm.

Brunswick

5-14-09

HA-5 pipe 6 - (photo 139) <sup>Buried</sup> pipe in this area.

HA-5 pipe 7 - (photo 140 141) There

appears to be broken pipe - unknown

quantity. 1 stick visible.

HA-5 pipe 8 run - ~~but this is~~ this is a

line feature of a pipe run. at the

south end - it appears to be  $\approx$  12" wrapped

buried and continues south <sup>metal</sup>

underground. Most likely unknown.

(photo 144)

$\approx$  8 inch diameter

HA-5 pipe 9 run - This pipe is

8" - no metal + is

partially buried though its

trend is visible. (photo 145)

- Some broken pipe + collars

associated w/ this run.

HA-5 pipe 10. inlets + outlets

visible. middle of pipes are

covered in crush rock berm.

$\approx$  120' metal pipe. There is

also an unknown quantity

of cement pipe here buried /

(photo 148)

Brown Wright

5-14-09

HA-5 pipe 11 - 20' of  
cement pipe + 10' of  
metal pipe in this area.  
(photos 149 + 150)

HA-5 pipe 12 - Cement pipe  
w/ collar popping out of  
base of slope of tailings (oxide)

HA-5 pipe 13 - pipe sticking  
out of the ground under the  
main mine road. (photo 154)

HA-5 pipe 14 - 60' of pipe  
metal wrap pipe. (photo 156)

HA-5 pipe 15 - metal wrap pipe  
(photo see 155 + 156) + photo 157  
= 60'. Partially buried. Unknown  
amount is buried.

HA-5 is end.

HA-2 pipe alone - metal wrap  
8" di.  $\approx$  10 ft.

HA-3 pipe 1 -  $\approx$  200' cement pipe 12"  
(photo 159)

HA-3 pipe 2 - 2" diameter  
suspect pipe  $\approx$  1 yd<sup>3</sup> of sand  
2-3' long pipes

5-14-09

photo (160)

HA-3 pipe 3 - (photo 161)  
 $\approx$  286' of 8" cement pipe

HA-3 pipe 4 - (photo 165)

HA-3 pipe 5 - Center of an area that  
contains a lot of pipe. All of this  
pipe resides to the East of the  
line feature HA-3 pipe 4.

8" pipe =  $\approx$  170'

10" pipe =  $\approx$  260'

14" pipe =  $\approx$  130'

18" pipe  $\approx$  80'

24" pipe =  $\approx$  234'

Scattered + broken pieces of  
pipe + collar all throughout this  
area.

HA-3 pipe 6 - (photo 172 + 173)

at West end of pipe, the larger  
diameter pipe ends but the  
smaller diameter pipe keeps  
going. (pic 174)

HA-3 pipe 7. Connection to line  
above. West end of these pipes  
terminate under berm.

(pic 175 + 176)

5-14-09

HA-3 pipe 8 -  $\approx 160'$  of 12" cement pipe.

$\approx 100'$  of 16" under road.

$\approx 120'$  of 8" wrap metal under road, partially (photo 177)

HA-3 pipe 9 - south end is  $\approx 4'$  below grade.

north end is  $\approx 2'$  below grade

(photo of south end ~~run~~)

north end - photo 178)

HA-3 pipe 10 -  $\approx 120'$  of 8" wrap metal pipe, partially buried.

HA-3 pipe 11 - 6 sticks of 12" pipe in trash hole  $\approx 78'$  feet.

(photo 181)

HA-3 pipe 12 - photo 182

$\approx 120'$  metal pipe.

~~343~~ ~~12~~ ~~run~~ 13' of 12" pipe

HA-3 pipe 13 - ~~stick of~~ 20" ~~of~~ ~~run~~ 20' of 12" pipe. (photo 183)

HA-3 pipe 14 - (photo 184 looking West) photo 185 looking East.

Briona Wright

5-14-09

HA-3 pipe 15 - is a connection point from pt HA-3 pipe 14.

at this point the pipe is buried & is visible in Manhole. (pic 186-187)

HA-3 pipe 16 - the past end of this line has 4 sticks that have not been GPS'ed due to their unsafe location. See photo (188)

- There is twisted up metal pipe in the vicinity (photo 189)

- There are 2 sticks of cement pipe south of this pipe line (run) ~~run~~ pipe run.

at West end of this line  $\rightarrow$

See photo 193

Photos 194 + 195 are of a lizard!

HA-3 pipe 17 - is a pipe run that trends  $\approx$  N-S. (photo 196 - looking South).

~~To~~ the south ~~run~~

To the West of this pipe run are 2 sticks of pipe (photo 197)

5-14-09

HA-3 pipe 18 - photo (198+199)  
 ≈ 286' of 12" pipe.

HA-3 pipe 19 - photo (200+201)

In this area, the pipe is  
 connected in some areas + disconnected.  
 ≈ 250' ≈ ~~250'~~ 254' of 12" pipe  
 Broken debris scattered.

HA-4 pipe 1 - 520' of 12"

pipe 26' of 24"

Running N-S of RCA (on West)

≈ 100' of 6"

Pipe most of 12" pipe on West  
 side is in poor condition (pic 202)

250 linear feet of what appears  
 to be concrete or sewer pipe -  
 just south of HA-4 pipe location  
 (pic 203)

HA-4 pipe 2 - This point is NW  
 corner of a ~~few~~ point that is  
 the northern most point of pipe  
 that was quantified in HA-4 pipe 1.

*Shirley Nye*

5-14-09<sup>21</sup>

HA-4 pipe 3 - SE corner of  
 line that connects to HA-4 pipe 2.

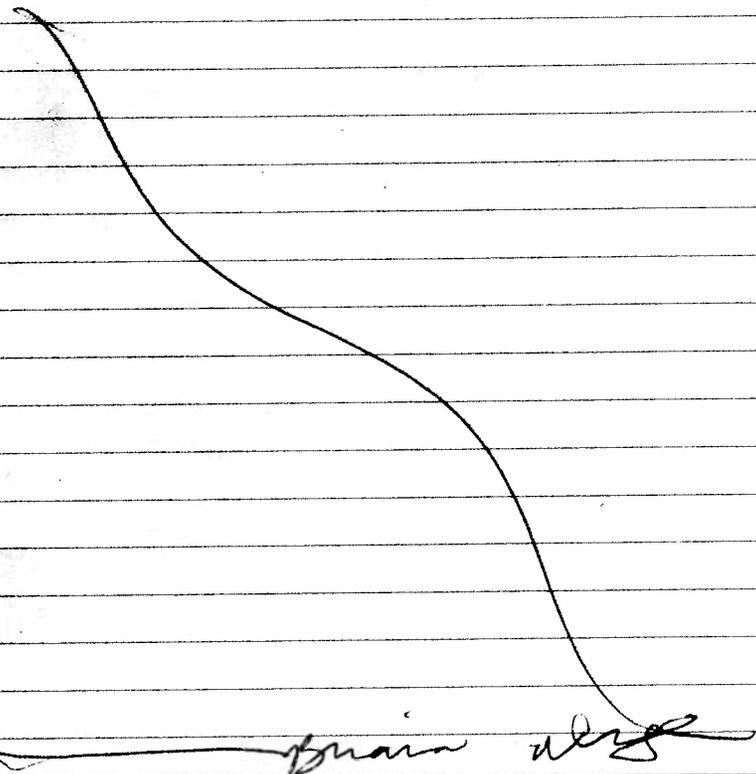
This line encompasses the  
 amount of feet that was  
 estimated in HA-4 pipe 3.

1735 Mob to Weed H's office.

1740 Leave for Carson.

1850 Back at office.

1900 End of day



*Shirley Nye*

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Characterization  
Transite Pipe / Radiological  
Sampling



"Rite in the Rain"®

ALL-WEATHER  
JOURNAL

No. 391

Team 1

Briana Wright  
Brown & Caldwell

"Rite in the Rain"®  
ALL-WEATHER WRITING PAPER



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Project Transit Pipe

Characterization

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Yerington  
Mine

Transite  
Sampling

9.27.09

0900 - Arrive at HA-4 RCA area

0930 - Collect HA-4-01.

0955 - Collect HA-4-02.

Pipe within the RCA area is contained in cordoned off area by caution tape.

O.D. =  $\approx 14$ " of most pipe in area.

ATBW One piece is  $\approx 6$ ".

Pipe here is heavily scaled on inside.

Ends are broken and could become friable. Outside of pipe is weathered

(slight reddish color)  $\approx 75$ ' linear feet. Scale <sup>(material)</sup> varies  $3/8$ " to 1" thick of

scale inside. Broken off piece of pipe (fresh exposed surface) is light gray in color. Pipe appears to have been used due to scaling.

1040 - Collect HA-4-03

10" O.D. diameter. Lone pipe that is broken. Scattered broken pieces throughout area. Inner green-colored liner is visible.

In this area is an underground storage vault that contains pieces of pipe that can not be safely assessed due to no access to this underground structure.

BW 9.27.09

Yerington  
Mine

Transite Pipe  
Characterization.

9.27.09 <sup>3</sup>

HA-4-03 was weathered all the way through with the light reddish color. It lacked the light gray color that was observed on HA-4-01 and HA-4-02, on the freshly chipped off piece.

1114 Collect HA-4-04.

Richland sample was a broken piece of pipe on ground - was not chipped off.

The Richland sample has blue-green liner on inside. Sparks Lab Asbestos sample is broken off. This area contains 24" O.D. some broken pieces, in tact for the most part.

It looks/appears ~~as if~~ <sup>as if</sup> it was never in the ground. These pieces <sup>are</sup> do not have scaling and show blue-green liner.

1140 Collect HA-4-05. Collect Asbestos

only. Piece/sample collected by breaking off a piece of <sup>existing</sup> broken piece.

Weathered pieces 14" O.D. Contains scaling. Broken ends are not crushable with finger pressure.

1150 Collect HA-4-06.

BW 9.27.09

1155 Collect HA-4-07.

1200 Collect HA-4-08.

Samples HA-4-06 through -08 are concrete sewer pipes. Appear to have been stockpiled in this area.

1330 Arrive at HA-1.

1350 Collect HA-1-01.

Pipe is intact, in general, in this area there is both lined + unlined. Sample HA-1-01 is lined pipe. Appears to be unused, other end was saw-cut.

~16" O.D.

1358 Collect HA-1-02. Asbestos only sample.

intact, 8" OD, lined pipe. Does not appear to be used.

1400 Collect HA-1-03. Asbestos only sample.

Mostly intact, some broken ends, some broken shards of pipe in the vicinity. 10" OD lined pipe

405 Collect HA-1-04. Unlined pipe.

Sample from broken piece of collar.

He breaks it off of the broken collar.

410 Collect HA-1-05. It appears to be

used pipe here. Vn-lined pipe.

~8" OD

1440 Collect HA-1-06.

8" OD, unlined pipe. Appears to have been utilized ~~for~~ <sup>with</sup> 1/8" of scale.

1447 Collect HA-1-07. collect from 10" OD lined pipe, including some sediment inside.

1456 Collect HA-1-08-MET. Metal 1500 pipe laying next to road.

1300 Collect HA-1-09-MET. Same metal pipe as above but

1305 Collect HA-1-10-MET.

All MET samples above from long metal, 12" di, ~40' bent and crushed pipe. ~50% covered w/ black asphaltic material. Interior of pipe has some type of material in it.

1525 Arrive at HA-7

1545 Collect HA-7-01.

15" O.D. Suspect clay pipe. It runs to the north and goes underground.

1552 Collect HA-7-02. 22" OD pipe set in cement bottom. Bottom half encased in ~4" concrete.

9.27.09

Heavily weathered. Full with sediment. Possible evaporation pond sediments.

HA-7-03 <sup>BW</sup> 9.27.09

1555 Collect HA-7-03.

1557 Collect HA-7-07.

HA-7-03 and HA-7-07 have same description as HA-7-02.

1610 ~~HA-7-04~~ <sup>BW</sup> Collect HA-7-04.

9" OD. Weathered. Contains scale inside. It runs north and underground; Under the road.

1615 Collect HA-7-05. Same description as HA-7-04. Contains green liner.

1620 Collect HA-7-06. Same

description as HA-7-04.

1634 Collect HA-7-08-MET

1635 Collect HA-7-09-MET

1636 Collect HA-7-10-MET.

Metal pipe, 24" OD with asphaltic material coating less than 50% of pipe.

1655 Arrive @ HA-6

1700 Collect HA-6-01. 16" OD

Weathered stick of pipe. ~~at HA-6-01~~ <sup>BW</sup>

~~BW~~ 9.27.09

9.27.09

1703 Collect HA-6-02.

16" OD weathered stick of pipe.

Lined pipe w/ some sediment inside (not a lot). The pipe throughout this area has been picked up from somewhere else and deposited there.

\* at HA-6-01, there is a hole in the pipe; appears to have occurred when the back-ho operator picked it up

1710 Collect HA-6-03

16" OD weathered pipe. In area with 4 sticks. It is a lined pipe.

1755 Collect HA-6-04-MET.

Metal pipe w/ some type of asphaltic coating + some type of fiber in it. 16" diameter. metal <sup>BW</sup>

1800 Collect HA-6-05-MET.

Same as HA-6-04-MET. Has white ~~colored~~ <sup>BW</sup> colored material around the black wrap.

1805 Collect HA-6-06 ~~06~~ <sup>BW</sup> Collect

HA-6-06-MET. Same description as

~~BW~~ 9.27.09

8 Yerington  
Mine

Transit Pipe  
Characterization 9.27.09

HA-6-04-MET and HA-6-05-MET  
1830 End of day. Mob to Carson City.  
2000 arrive in Carson City.

Bruana Wright 9.27.09

Yerington  
Mine

Transit Pipe  
Characterization 9.28.09

0530 Mob to Weed Hts office in  
Yerington

0630 drive @ ~~HA-2~~ <sup>FW 9-28-09</sup> Yerington

0740 arrive @ HA-2. Upper area.

Visible pipe runs that run right off  
nigh wall edge. In area where we  
sample HA-2-01, there are 2  
pipe runs. Pipe sticks are scattered on  
their north side then terminate off  
cliff on south side. Appear to be  
in place <sup>due</sup> to staking and wiring  
holding them in place at each  
pipe connection. Pipes here appear  
to have been used.

0810 Collect HA-2-01. Both rad  
+ Asbestos outside of pipe is  
weathered. Inside of pipe contains  
broken off pieces of pipe. Pipe is  
lined w/ green material. Broken  
pieces of collar nearby. 14" OD

0820 Collect HA-2-02 14" OD Pipe run  
that runs down slope (generally  
north + connecting to (T-connection)  
pipe down slope. Lined pipe. appeared  
to be used - no significant scaling

FW 9.28.09

10 Yerington  
Mine

Transite Pipe  
Characterization

9.28.09

Sample was chipped off of pipe run.

HA-2-01 was sampled off of  
broken piece of pipe next to pipe run.

- Pictures of HA-2-02 from penny.

0405 Collect HA-2-03. Rad + Asbestos

Sample collected in area where pipe  
is disconnected. It is a bend in the  
run and next to a concrete-filled  
wooden box. Pipe end is not easily  
crushed. End of pipe, when rubbed  
upon w/ fingers would slightly show  
material from pipe fall off. Address the  
situation further during abatement.

Sample was chipped off of pipe run <sup>(lined pipe)</sup>  
0920 Collect HA-2-04.

12" OD, lined pipe. Sample collected  
from existing pipe run. Pipe is weathered  
and is very weathered near end where  
the broken collar used to be connected  
here. Broken collar next to end of  
pipe. No visible sediment or scaling  
inside pipe.

0940 Collect HA-2-05

12" OD lined pipe. Sample from  
pile of sticks near the pipe run.

BW 9.28.09

Yerington  
Mine

Transite Pipe  
Characterization

9.28.09

This pipe end shows white colored  
weathering. Appears that pipe  
material in this sample can be  
fall apart with finger pressure.  
It "sprinkles" down when pushed w/ finger.

pressure. Sample is taken <sup>BW</sup> from  
breaking off end piece of stick.

Other ends in this area have a  
variety of conditions. Some broken off  
w/ firm/dense condition when applying  
finger pressure. Other ends show  
green-liner completely covering the end.  
a few scattered broken collars in  
area. No scaling inside pipe. Some  
sediment inside.

1000 Collect HA-2-06. Sample  
taken from pile of broken pieces  
of pipe or collars. Sample  
contains lining, no visible sediment or  
scaling on lined piece, pieces  
vary in size to 1/2" to 10". All  
angular + contain lining on one side.  
All pieces stay intact upon finger  
pressure. Appears to have been broken  
apart by mechanical means. Pieces

BW 9.28.09

12 Yerington Mine  
Transite pipe  
Characterization  
9.28.09

do not show signs of significant weathering (ie: red coloring).

1015 Collect HA-2-07 Piece of 12" OD pipe, trending to north, that exists under ground around outside of WRA. Sampling area is ~~at the~~ end of piece, only  $\approx 1'$  foot is visible. Lined pipe full of sediment. Pipe is intact and shows weathering on outside.

Sediment appears to be from rainwater run off. Collect asbestos + Rad.

1055 Collect HA-2-08 Rad sample only. This sample is broken off a piece of pipe run. It exists next to another pipe run that sits right next to it. 12" OD. Lined.

No scaling - some sediment inside that appears to be from rainwater deposition. Pipe trends to the north and is buried.

1105 Collect HA-2-09 Rad only.

This piece same description as HA-2-08. It contains a collar around end - that is ~~not~~ broken. Took Roe a lot of hammering

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Yerington Mine  
Transite Pipe  
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to get this sample.

1150 Collect HA-2-10.

12" OD lined pipe. At this point the pipe run has ended and turns into broken pieces of collars as it trends to the west. Inside of pipe the liner has deteriorated + when rubbing finger upon it - the material "sprinkles" down. The "sprinkled" material is white and grayish in color. Pipe has no scaling or sediment.

1150 Collect HA-2-11. Area and sample contain pieces of broken collars. Sizes vary from 1" - ~~12~~ 1/4" in sample area. Pieces of pipe collars are dense and firm w/ hand pressure.

1330 arrive at HA-3.

1400 Collect HA-3-01 collect ms on Rad, F~~or~~ Asb.

12" OD lined pipe. Sample taken by chipping off the pipe run. A parallel pipe exists next to this pipe run. No scaling inside pipe.

1430 Collect HA-3-02

Broken piece of 24" lined pipe. No scaling or sediment.

BSW 9-28-09

14 Yerington  
Mine

Transite Pipe  
Characterization 9-28-09

1445 Collect HA-3-03. Collect

~~Collect~~ HA-3-03-FD on Radiochemical

This pipe is 8" OD and is very thin as it heads towards the open end, the other end of pipe extends into the ground, it is thicker on that end. collect Radio + Asbestos. The condition of this pipe is very deteriorated.

1500 Collect HA-3-04 both Rad + Asbestos

Collect HA-3-04-FD on Asbestos

18" OD unlined pipe, sampled by chipping off. Some sediment inside. No scaling, it exists in a concrete base.

520 Collect HA-3-05.

24" OD pipe. Lined. No scaling. Full of sediment. Sediment appears to be same type as surrounding gravel in area. Sample broken off of pipe. This is a 4-stick run of pipe.

1530 arrive at HA-5.

~~1340~~ ~~BSW~~ collect HA-5-01.

1540 8" OD piece of lone pipe.

Lined pipe. Sample collected

BSW 9.28.09

Yerington  
Mine

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from broken piece of pipe near this pipe.

1550 Collect HA-5-02 on Asbestos + Rad.

Collect HA-5-02<sup>BSW</sup> on FD on Asbestos 8" OD Pipe, Lined, Contains sediment but no scaling. Outside of pipe shows greenish coloration.

Samples collected from broken pipe laying near the stick.

1555 Collect HA-5-03-MET

Collect HA-5-03-FD~~BSW~~

HA-5-03-MET-FD

12" metal pipe, no scaling visible inside. Asphaltic coating w/ a fibrous media-binder.

1630 Collect HA-5-04 on Asb + Rad

Collect HA-5-04-FD on Asb + Rad.

8" OD lined pipe. This area is a separated bend in the pipe run.

No scaling visible in pipe.

1637 Collect HA-5-05. Sample from scattered pieces of broken pipe (lined pipe) in the area.

1642 Collect HA-5-06. 8" OD

lined pipe, from separated pipe run.

BSW 9.28.09

16 Yerington  
Mite

Transit log  
Characterization

9.28.09

11

1055 Arrive @ HA-4 R.C.A.

We will be throwing out sample

HA-4-02 9/27/09 @ 0955 (Rad + Asb.)

Will re-sample HA-4-02 on 9.28.09

for Radio + Asb. We will take

Duplicate for Radiochem.

1705 Collect HA-4-02 Ash + Rad.

Collect HA-4-02-FD Rad only

1830 End of day. Mob to Carson City.

1930 arrive in Carson

Anna Wright 9.28.09

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...for outdoor writing people."



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# TRANSITE PIPE CHARACTERIZATION



"Rite in the Rain"

ALL-WEATHER  
JOURNAL

No. 391

TEAM 2

Penny Bassett (BC)  
Doug Johnson (Foxfire)



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Project TRANSITE PIPE  
CHARACTERIZATION

2-5 HA-4  
 5-6 HA-1  
 7 HA-7  
 7-8 HA-6  
 9-12 HA-2  
 12 HA-3  
 13 HA-5  
 13 HA-4  
 14 Pack + Summary

9/27/09  
 ↓  
 9/28/09  
 ↓  
 9/29/09

9/27/09  
SUNDAY

Yerington Transite Pipe Charact.

0630 Arrive on site, safety kickoff meeting in Weed Heights office  
 Team 1 - Roe Souther, Briana Night  
 Team 2 - Doug Johnson, Penny Bassett  
 EPA/CH2M Hill - Ilke Dinkleman  
 0840 Collect field supplies at lab  
 0900 Arrive at HA-4 Radiological Control area.  
 0916 Turn on airpump sampler on Roe

Point#	Pipe uR/hr	Bkgd uR/hr	Dist from point	Comment
	139	37	25'	end of stick
	335			6" outside #1
	665			stick # 1
	1004			"
	590			stick # 2
	312			"
	175			stick # 3
	480			"
	1460			"
	150			stick # 4
	90			"
	50			"
	38			stick # 5
	35			"

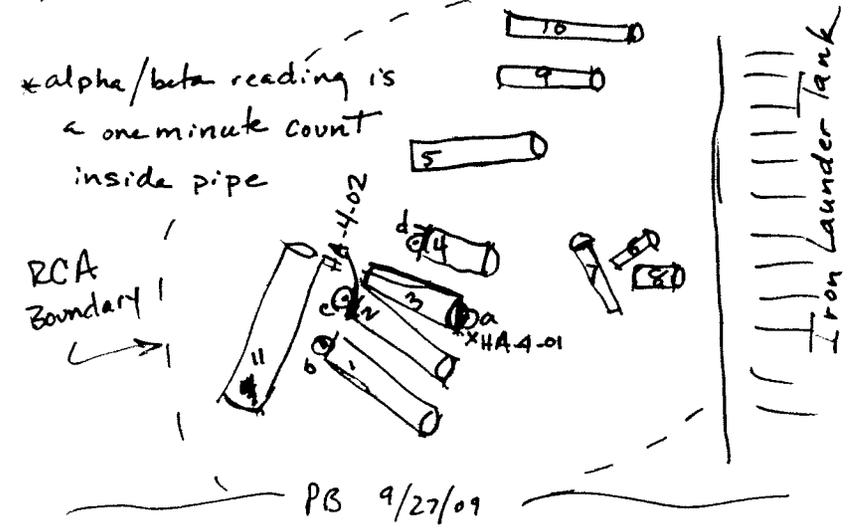
PB 9/27/09

Pipe uR/hr

Yerington Transite Pipe 9/27/09

Pipe uR/hr	Comment
34	stick # 6
33	# 7
44	8
41	8
45	9
37	10
477	11
700	"

	outside uR	inside uR	alpha/beta inside CPM	* alpha/beta
a) HA-4-01	190	200	2567	2507 # 3
b)	1100	1390	20287	20287 # 1
c) HA-4-02	1400	3200	41019	41019 # 2
d)	124	120	1356	1354 # 4



9/27/09

Yerington Transit Pipe

0950 Doug J exits RCA, does an assessment frisk (alpha/beta w/ pancake probe) on clothing after removing PPE (Tyvek, boot covers, respirator, gloves)

Frisked clean, no contam

0957 Roe exits, remove PPE frisked clean, no contam  
Change out boots, dispose + change out Tyvek, gloves

RA-4 Radiation Survey

Point	Pipe Survey $\mu$ R		open End		CPM $\oplus$		$\mu$ R Bkgr
	Top	Bottom	Inside	Out	alpha	beta	
HA-4-03			25	25	0	426	
1	37						
2			25	32	0	400	
3	25						
4	32	(no vis. seeling)					29
5			50	49			
6	130	175	600	290	0	8250	
7	28						
HA-4-04			42	35	0	644	60
HA-4-05			22	23	0	431	21
HA-4-06			20	22	0	419	25

Concrete pipe ~~~~~ PB 9/27/09 ~~~~~

SEE NOTE AT END OF DAY PAGE 8

Yerington Transit Pipe

9/27/09

way - Bkgr varies from ~30 to 60  $\mu$ R/hr. pipe in sunken areas more TEMORM than at end closer to lower than tanker tanks. Pipe outside RCA and across roadway all is Bkgr even though some looks like it is more used (has scale) this means when RCA was set up they did good job distinguishing soil levels.

Found one spot in roadway 10m or so SE of RCA where Bkgr ~~was~~ spiked ~150  $\mu$ R/hr No visible pipe road out 1113

1215 - 13:15 Lunch break  
1330 Survey HA-1 Area located near east end pit, pipe laydown area. 3 types of pipe observed in this area (lined cement, unlined cement, steel)

Point	$\mu$ R Pipe Survey			CPM Survey		$\mu$ R Backgr
	Top	Bottom	Inside	alpha	beta	
8	15		14	0	330	20
24" pipe w/3 full of sediment (photo)						
9	16		17	0	395	$\alpha/\beta$ unusable
HA-1-01	13		15	20	352	
HA-1-07	55		50	31	25590	
HA-1-02	14		15	+	352	
HA-1-05	14		15	+	45426	

PB

9/27/09 Yerington Transite Pipe

Point	uR Top	Pipe Survey Bottom	Inside	CPM alpha Outside	Beta <del>5799</del> <del>4285</del>	uR Bkgr <del>x B unusable</del>
11	14		14	+		
HA-1-04	12		13			
HA-1-06	13		14		mixed field 2800	(pancake broke)
HA-1-03	15		14		2900	
HA-1-07	Same as #10					
12	14		14	2300		unused unlined pipe as background comparison
HA-1-08	17		-			Steel, no open end to measure MF
HA-1-09						
HA-1-10						

14:50 mixed field reading  
Recollect # w/ pancake probe

HA-1-02	1600 CPM	mixed field w/ pancake measured inside
HA-1-01	1900 CPM	MF pipe only
HA-1-04	2400 CPM	
HA-1-06	1900 CPM	
HA-1-05	1600 CPM	
HA-1-03	1900 CPM	
HA-1-07	7000 CPM	

PB 9/27/09

27 48 77

Yerington Transite Pipe

9/27/09

13:20 Move to HA-7 by Evap + Sewage Pond

Point #	uR Pipe Outside	Inside	CPM Mixed Field	uR Bkgr	
HA-7-08, 09, 10	48	77	<del>2500 Bkgr</del> 1300 1500 Inside	27	steel pipe
13 (HA-7-05)	52			44	
14 (HA-7-04)	44	43	1003		clay pipe?
HA-7-01	36	47	1240		
HA-7-03	33	-		40	cement
HA-7-02	28	29	2560	"	cement
HA-7-04	32	29	1004	"	cement
15		28		35	buried cement
HA-7-06	41	41	880	39	

16:50 Move to HA-6 North Sulfide Tails

Point #	uR Outside	uR Inside	CPM Mixed Field	uR Bkgr	
HA-6-01	22	20	690	22	cement pipe
HA-6-02	24	21	570	21	"
HA-6-03	17	17	1004	16	"
16	20			20	"
17	24			24	"
8	15			19	
19	16			18	
HA-6-04 met	19			20	
HA-6-05 met	19			20	
HA-6-06 met	20				

PB 9/27/09

9/27/09 Yerington Transit Pipe

1715 - Doug J completed survey of used PPE worn in the RCA + placed in trash bag. Survey with pancake probe, same as used to frisk workers on exit.

18:00 Turn off air pump sampler at last location HA-6

Sample #: AF-1

Flow Rate: 2.5 L/min

Time on: 0916

off: 1800

⊕ NOTE from Page 4:

in HA-4 and HA-1  
Initial alpha/beta readings were measured with scintillation probe. However, the plastic cover had not been removed + effectively screened out all alpha particles. The readings became very erratic in HA-1 and it was determined that the probe had become damaged. All readings taken with this probe was determined to be unreliable and will not be used. Changed to using the pancake probe which measures gross radiation (alpha, beta + gamma), also referred to as "mixed field".

Penny Bassett 9/27/09

9/28/09  
MON

Yerington Transit Pipe Characterization

0630 Meet at Weed Hts office, complete safety meeting, Toolbox form, review work plan for day

Team 1: Roe Souther + Briana Wright  
(collect physical samples)

Team 2: Penny Bassett + Doug Johnson  
(collect radiation survey readings)

EPA Oversight: Ilke Dinkelman (CH2M)

0700 Change out P100 respirator cartridges on Roe Souther's respirator.

0740 Turn on air pump sampler to collect personal breathing zone sample on Roe Souther (AF-2)

0740 Mobilize to HA-2 on Waste Rock W-3 area, including on top of W-3 + around side (NE) from slot pond towards process area  
Ilke Dinkelman on site to oversee sampling activity

PB 9/28/09

10 9/28/09 Yerington Transit Pipe

Point	u R reading			Inside	MFCPM Inside	cement pipe 10"
	Bkgr	Top	Bottom			
20	19	19				
21	17	16	17			
22	17	17	16	-		
	↳ Check surrounding pipe, low points, drains to sidelines and all readings are similar, no open end					
HA-2-02	18	18	19	20	111	
	↳ Top end of long run uphill to top of W-3, likely transp raw acid to leach					
HA-2-01	17	17	17	16	106	
	Piping run on top of W-3 ~ 18" diam					
23	19	21	20	intact pipe		
24	28	26	25	intact pipe but evidence of erosion at joint at seam		
25	21	20	20	18	125	
	hole in pipe, hit by rock, or generally intact pipe running up to top of W-3					
26	22	20	24	22	125	
(HA-2-03)	Bend in pipe where joint has been removed + inside is accessible.					
27	24	21	20	north pipe	} parallel pipe run at same loc	
28	"	21	21	south pipe		
HA-2-04	19	19	18	19	169	
29	22	22	21	north pipe	} parallel same spot	
30	"	21	22	south pipe		
31	20	20	20	19	210	north
32	"	20	20	20	218	south
HA-2-05	19	18	20	19	190	
	↳ broken pieces of pipe that had been removed from continuous run where it crosses road					

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Yerington Transit Pipe

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Point	Bkgr	Top	Bottom	Inside	CPM Inside	Comment
34	+	22	21			(north pipe)
35	22	25	-	29	262	north low pipe
36		26	-	28	272	south low pipe
	Two parallel cement pipe unlined partially buried in mud. Remnants from what appears to be a removed parallel set of pipe that were replaced by the current parallel set. These pipe are unlined, newer(?) pipe is lined.					
37	20	19	20	-	-	north
38		19	19	-	-	south
39	20	18	19	19	185	north/east
40		19	18	20	213	south/west
41	19	17	18	-	-	North east
42		19	19	-	-	south west
	↳ Low point along parallel line, each pipe has drain hole that appeared to be designed to drain short section of pipe onto small piece of liner + into ditch.					
HA-2-06	20	20	* fragments	-	230	
HA-2-07	22	22	-	23	230	single pipe run along toe of W-3
43	18	18	20	-	-	same single pipe low point
HA-2-08	16	17	-	17	370	west/south parallel pipe
44		18				east/north intact pipe parallel to seg
HA-2-09	17	18	19	19	335	
	↳ Locations 08 + 09 are from diff parallel pipes, collect rad sample of each to determine if difference in silts carried in each pipe run.					

PB 9/28/09

12 9/28/09 Yerington Transit Pipe

Point	uR Bkgr	Outside			CPM Inside	Comment
		Top	Bottom	Inside		
45	22	20	20	20	336	North
46	"	19	21	20	325	South
HA-2-10	25	24	23	21	635	North
47	"	22	24	22	442	South
HA-2-11	24	23 <sup>+</sup>	-	-	-	shards - broken collar
48	22	20	20	19	389	

12:15 Lunch break

13:35 Return from lunch

Mobilize to HA-3 Process Area

HA-3 Point	uR Bkgr	Outside			CPM MF Inside	Comment
		Top	Bot	Inside		
HA-3-01	20	19	18	17	330	intact pipe
49	20	20	20	-	-	
HA-3-02	20	21	20	21	355	unlined } used pipe lined } same stack
50	19	17	18	17	-	
51	"	18	18	18	-	
52	24	22	24	-	-	
HA-3-03	30	27	28	27	417	24" cement
53	28	28	28	26		
HA-3-04	21	20	21	21	420	
HA-3-05	20	20	21	21	406	
54	20	20	21			

PB 9/28/09

6500

Yerington Transit Pipe 9/28/09 13

15:30 Mobilize to HA-5 Oxide / S. Sulfide

HA-5 Point	uR Bkgr	Top	Bot	Inside	CPM MF Inside	Comment
HA-5-01	27	28	28	29	430	single isolated stick 16" diam
55	50	40	63	-	-	steel wrap pipe
						steel pipe in red sed from calcine tails bkg in area is high + reading at pipe top is less.
HA-5-03 met	29	28	32	-	-	metal pipe
HA-5-02	36	30	30	26	309	cement pipe broken shards
HA-5-04	20	18	21	20	295	cement pipe 8" on top of Sulf tails
HA-5-06	19	19	20	20	335	same pipe line on sulf tails
HA-5-05	-	-	-	-	-	shard only

\* nearby pipe is intact + shard did not come from that pipe so did not do rad reading on pipe or shard.

16:50 Relocate to HA-4 RCA to recollect sample at HA-4-02 + remeasure mixed field readings

HA-4-01	800 CPM mixed field
-4-02	6500 CPM Mixed
-4-03	440 CPM
-4-04	380 CPM
-4-05	410 CPM
-4-06	475 CPM
-4-07	430 CPM
-4-08	400 CPM

} concrete pipe

17:18 Remove air pump sampler from

Roc + turned off AF-2

Penny Barrett 9/28/09

**9/29/09**  
**TUES** YERINGTON TRANSITE P. PE

10:00 Penny Bassett arrive on site.  
Penny + Roe Souther pack + ship  
samples for both labs  
- asbestos samples will be hand  
delivered to Asbestos TEM lab  
in Sparks NV by Royanne Barringer.  
- Radiochem samples shipped in  
one cooler (unpreserved) to  
TestAmerica Richland by  
FedEx Ground

FedEx Ground Tracking ID  
8009402 00002713  
GROUND PREPAID

Radiation survey equipment used:

- Ludlum 2224 meter
  - pancake 44-9 probe for "mixed field"
  - 44-2 Sodium iodide probe for "gamma"
- Ludlum 2241-3 meter
  - 43-89 scintillation probe "alpha/beta"

Doug Johnson - Foxfire Scientific is the  
Radiation Health Physicist who completed  
all radiation readings

Penny Bassett 9/29/09